Notice of Allowability	Application No.	Applicant(s)	
	09/691,589	QUINTERO, LIRIO	
	Examiner	Art Unit	
	Daniel S. Metzmaier	1712	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *the amendments of 8/13/2004 & the interview of 8/27/2004*.

2. ☒ The allowed claim(s) is/are *2-14,25,29,37-39,43-46,49,50,63-73,77-101,105-185 and 187-193*.

3. ☐ The drawings filed on _____ are accepted by the Examiner.

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date *8/27/2004* .
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

Daniel S. Metzmaier
Primary Examiner
Art Unit: 1712

EXAMINER'S AMENDMENT

Claims 2-14,25,29,37-39,43-46,49,50,63-73,77-101,105-185 and 187-193 are allowed.

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Paula Morris on August 27, 2004.

The application has been amended as follows:

Replacement paragraph to the specification begins on page 3.

Replace the claims with the list beginning on page 4.

In the specification

Replace the paragraph at page 1, lines 6-7 as follows:

The present application is a continuation-in-part of ~~pending~~ U.S. Application Serial Number 09/426,172, filed October 22, 1999, now U.S. Patent 6,224,534, which claims priority under 35 U.S.C. 119(e) to provisional application Serial Number 60/105,502, filed October 23, 1998.

AMENDMENTS

In the Claims

1. (canceled)

2. (previously presented) The composition of claim 100 wherein

said alkane sulfates, alkane sulfonates, and phosphate esters have from about 8 to about 18 carbon atoms; and

said polyoxyethylene alcohols are selected from the group consisting of polyoxyethylene alcohols having a carbon chain of about 8 to about 30 carbon atoms and having from about 3 to about 50 moles ethylene oxide.

3. (previously presented) The composition of claim 100 wherein said polyoxyethylene alcohols have from about 13 to about 15 carbon atoms.

4. (previously presented) The composition of claim 100 wherein said polyoxyethylene alcohols have from about 3 to about 20 moles ethylene oxide.

5. (previously presented) The composition of claim 2 wherein said polyoxyethylene alcohols have from about 3 to about 20 moles ethylene oxide.

6. (previously presented) The composition of claim 3 wherein said polyoxyethylene alcohols have from about 3 to about 20 moles ethylene oxide.

7. (previously presented) The composition of claim 100 wherein said polyoxyethylene alcohols are selected from the group consisting of linear polyoxyethylene alcohols, polyoxyethylene alcohols having about 10 moles ethylene oxide, and a combination thereof.

8. (previously presented) The composition of claim 2 wherein said polyoxyethylene alcohols are selected from the group consisting of linear polyoxyethylene alcohols, polyoxyethylene alcohols having about 10 moles ethylene oxide, and a combination thereof.

9. (previously presented) The composition of claim 3 wherein said polyoxyethylene alcohols are selected from the group consisting of linear polyoxyethylene alcohols, polyoxyethylene alcohols having about 10 moles ethylene oxide, and a combination thereof.

10. (previously presented) The composition of claim 100 wherein said combination comprises a blend of non-ionic emulsifier and anionic emulsifier at a ratio of about 50/50 wt% to about 85/15 wt%.

11. (previously presented) The composition of claim 2 wherein said combination comprises a blend of non-ionic emulsifier and anionic emulsifier at a ratio of about 50/50 wt% to about 85/15 wt%.

12. (previously presented) The composition of claim 4 wherein said combination comprises a blend of non-ionic emulsifier and anionic emulsifier at a ratio of about 50/50 wt% to about 85/15 wt%.

13. (previously presented) The composition of claim 5 wherein said combination comprises a blend of non-ionic emulsifier and anionic emulsifier at a ratio of about 50/50 wt% to about 85/15 wt%.

14. (previously presented) The composition of claim 6 wherein said combination comprises a blend of non-ionic emulsifier and anionic emulsifier at a ratio of about 50/50 wt% to about 85/15 wt%.

15. (Canceled).

16-24. (canceled)

25. (previously presented) The composition of claim 100 wherein said alkane sulfates, alkane sulfonates, and phosphate esters have from about 8 to about 12 carbon atoms.

26-28. (canceled)

29. (Currently amended) The composition of claim 10 ~~comprising~~ having about 10 wt.% or less of said combination of non-ionic emulsifiers with anionic emulsifiers.

30-36. (Canceled).

37. (Currently amended) The composition of claim ~~30~~ 80 wherein said droplets are encapsulated by an encapsulating material.

38. (Currently amended) The composition of claim ~~32~~ 86 wherein said droplets are encapsulated by an encapsulating material.

39. (Currently amended) The composition of claim ~~34~~ 89 wherein said droplets are encapsulated by an encapsulating material.

40. (Canceled).

41. (Canceled).

42. (Canceled).

43. (previously presented) A composition comprising:

drill cuttings; and,

an emulsion comprising droplets comprising free hydrocarbons emulsified by a combination of non-ionic emulsifiers with anionic emulsifiers having an HLB effective to emulsify said free hydrocarbons, said emulsion further comprising media adapted to initiate acid reactive polymerization upon exposure to polymerizable silicate solution,

wherein said anionic emulsifiers are selected from the group consisting of alkane sulfates, alkane sulfonates, and phosphate esters; and,

said non-ionic emulsifiers are selected from the group consisting of polyoxyethylene alcohols.

44. (previously presented) The composition of claim 43 wherein

said anionic emulsifiers comprise from about 8 to about 18 carbon atoms; and

said polyoxyethylene alcohols are selected from the group consisting of polyoxyethylene alcohols having from about 8 to about 30 carbon atoms and having from about 3 to about 50 moles ethylene oxide.

45. (previously presented) The composition of claim 44 wherein said anionic emulsifiers comprise from about 13 to about 15 carbon atoms.

46. (previously presented) The composition of claim 45 wherein said anionic emulsifiers are selected from the group consisting of linear polyoxyethylene alcohols, polyoxyethylene alcohols comprising about 10 moles ethylene oxide, and a combination thereof.

47-48. (canceled).

49. (previously presented) The composition of claim 43 wherein said droplets have a diameter of from about 3 microns to about 20 microns.

50. (previously presented) The composition of claim 49 wherein said droplets have a diameter of from about 3 to about 10 microns.

51-52. (canceled).

53-62. (Canceled).

63. (Currently amended) A drill cutting treatment composition ~~comprising~~ consisting essentially of:

droplets ~~comprising~~ consisting essentially of free hydrocarbons and an emulsifier combination ~~selected from the group consisting~~ of non-ionic emulsifiers~~,~~ and anionic emulsifiers, ~~and a combination thereof,~~ said droplets being encapsulated by ~~an encapsulating material~~ silicates;

wherein said anionic emulsifiers are selected from the group consisting of alkane sulfates, alkane sulfonates, and phosphate esters; and,

said non-ionic emulsifiers ~~comprise~~ are selected from the group consisting of polyoxyethylene alcohols.

64. (Currently amended) The composition of claim 63 wherein said anionic emulsifiers ~~comprise~~ have from about 8 to about 18 carbon atoms; and

said polyoxyethylene alcohols ~~comprise~~ have from about 8 to about 30 carbon atoms and from about 3 to about 50 moles ethylene oxide.

65. (Currently amended) The composition of claim 63 wherein said polyoxyethylene alcohols ~~comprise~~ have from about 13 to about 15 carbon atoms.

66. (Currently amended) The composition of claim 64 wherein said polyoxyethylene alcohols ~~comprise~~ have from about 3 to about 20 moles ethylene oxide.

67. (Currently amended) The composition of claim 65 wherein said polyoxyethylene alcohols ~~comprise~~ have from about 3 to about 20 moles ethylene oxide.

68. (Currently amended) The composition of claim 63 wherein said polyoxyethylene alcohols are selected from the group consisting ~~essentially~~ of linear polyoxyethylene alcohols, polyoxyethylene alcohols ~~comprising~~ having about 10 moles ethylene oxide, and a combination thereof.

69. (Currently amended) The composition of claim 65 wherein said polyoxyethylene alcohols are selected from the group consisting ~~essentially~~ of linear polyoxyethylene alcohols, polyoxyethylene alcohols ~~comprising~~ having about 10 moles ethylene oxide, and a combination thereof.

70. (Currently amended) The composition of claim 63 wherein said combination ~~comprise~~ have a blend of non-ionic emulsifier and anionic emulsifiers at a ratio of about 50/50 to about 85/15.

71. (Currently amended) The composition of claim 67 wherein said combination ~~comprise~~ have a blend of non-ionic emulsifier and anionic emulsifiers at a ratio of about 50/50 to about 85/15.

72. (Currently amended) The composition of claim 63 ~~comprising~~ having a pH of about 4 or less.

73. (Currently amended) The composition of claim 67 ~~comprising~~ having a pH of about 4 or less.

74-76. (Cancelled).

77. (Currently amended) The ~~A~~ composition of claim 63 wherein ~~comprising a droplets comprising a quantity of free hydrocarbons,~~ said droplets

~~being~~ encapsulated by ~~an encapsulating material effective to~~ silicate maintain a leachate of about 0.5% or less of said quantity of free hydrocarbon.

78. (Original) The composition of claim 77 wherein said leachate is about 0.25% or less of said quantity of free hydrocarbon.

79. (Original) The composition of claim 77 wherein said leachate is about 0.05% or less of said quantity of free hydrocarbon.

80. (Currently amended) A drill cutting treatment composition consisting essentially of:

a combination of non-ionic emulsifies with anionic emulsifiers having an HLB, effective to produce an emulsion ~~comprising~~ consisting essentially of free hydrocarbon droplets, said combination further ~~comprising~~ consisting essentially of media adapted to initiate acid reactive polymerization upon exposure to polymerizable silicate solution thereby encapsulating said free hydrocarbon droplets; wherein

said anionic emulsifiers are selected from the group consisting of alkane sulfates, alkane sulfonates, and phosphate esters; and,

said non-ionic emulsifiers are selected from the group consisting of polyoxyethylene alcohols.

81. (Previously presented) The composition of claim 80 wherein said alkane sulfates, alkane sulfonates, and phosphate esters have a carbon chain having from about 8 lo about 18 carbon atoms; and

said polyoxyethylene alcohols are selected from the group consisting of polyoxyethylene alcohols having a carbon chain of about 8 to about 30 carbon atoms and having from about 3 to about 50 moles ethylene oxide.

82. (previously presented) The composition of claim 80 wherein said polyoxyethylene alcohols are selected from the group consisting of polyoxyethylene alcohols having from about 13 to about 15 carbon atoms.

83. (previously presented) The composition of claim 80 wherein said polyoxyethylene alcohols are selected from the group consisting of polyoxyethylene alcohols having from about 3 to about 20 moles ethylene oxide.

84. (previously presented) The composition of claim 81 wherein said polyoxyethylene alcohols are selected from the group consisting of polyoxyethylene alcohols having from about 3 to about 20 moles ethylene oxide.

85. (previously presented) The composition of claim 82 wherein said polyoxyethylene alcohols are selected from the group consisting of polyoxyethylene alcohols having from about 3 to about 20 moles ethylene oxide.

86. (previously presented) The composition of claim 80 wherein said polyoxyethylene alcohols are selected from the group consisting of linear polyoxyethylene alcohols, polyoxyethylene alcohols having about 10 moles ethylene oxide, and a combination thereof.

87. (previously presented) The composition of claim 81 wherein said polyoxyethylene alcohols are selected from the group consisting of linear polyoxyethylene alcohols, polyoxyethylene alcohols having about 10 moles ethylene oxide, and a combination thereof.

88. (previously presented) The composition of claim 82 wherein said polyoxyethylene alcohols are selected from the group consisting of linear polyoxyethylene alcohols, polyoxyethylene alcohols having about 10 moles ethylene oxide, and a combination thereof.

89. (previously presented) The composition of claim 80 wherein said non-ionic emulsifier is at a weight ratio to said anionic emulsifier of about 50/50 to about 85/15.

90. (previously presented) The composition of claim 81 wherein said non-ionic emulsifier is at a weight ratio to said anionic emulsifier of about 50/50 to about 85/15.

91. (previously presented) The composition of claim 83 wherein saidnon-ionic emulsifier is at a weight ratio to said anionic emulsifier of about 50/50 to about 85/15.

92. (previously presented) The composition of claim 84 wherein said non-ionic emulsifier is at a weight ratio to said anionic emulsifier of about 50/50 to about 85/15.

93. (previously presented) The composition of claim 85 wherein saidnon-ionic emulsifier is at a weight ratio to said anionic emulsifier of about 50/50 to about 85/15.

94. (previously presented) The composition of claim 88 wherein said non-ionic emulsifier is at a weight ratio to said anionic emulsifier of about 50/50 to about 85/15.

95. (previously presented) The composition of claim 80 wherein said alkane sulfates, alkane sulfonates, and phosphate esters have from about 8 to about 12 carbon atoms.

96. (previously presented) The composition of claim 82 wherein said alkane sulfates, alkane sulfonates, and phosphate esters have from about 8 to about 12 carbon atoms.

97. (previously presented) The composition of claim 83 wherein said alkane sulfates, alkane sulfonates, and phosphate esters have from about 8 to about 12 carbon atoms.

98. (previously presented) The composition of claim 85 wherein said alkane sulfates, alkane sulfonates, and phosphate esters have from about 8 to about 12 carbon atoms.

99. (previously presented) The composition of claim 89 comprising about 10 wt.% or less of said combination of non-ionic emulsifiers with anionic emulsifiers.

100. (Currently amended) A drill cutting treatment composition consisting essentially of:

an emulsion ~~comprising~~ consisting essentially of droplets ~~comprising~~ consisting essentially of free hydrocarbons emulsified by a combination of non-ionic emulsifiers with anionic emulsifiers having an HLB effective to emulsify said free hydrocarbons and ~~comprising~~ consisting essentially of media adapted to initiate acid reactive polymerization upon exposure to polymerizable silicate solution,

said anionic emulsifiers are selected from the group consisting of alkane sulfates, alkane sulfonates, and phosphate esters; and,

said non-ionic emulsifiers are selected from the group consisting of polyoxyethylene alcohols.

101. (Previously presented) The composition of claim 100 wherein:

said polyoxyethlyene alcohols have from about 8 to about 18 carbon atoms; and,

said polyoxyethylene alcohols are selected from the group consisting of polyoxyethylene alcohols having ~~from about 8 to about 30 carbon atoms and~~ from about 3 to about 50 moles ethylene oxide.

102-104. (canceled).

105. (Currently amended) A composition consisting essentially of:

drill cuttings; and,

an emulsion ~~comprising~~ consisting essentially of droplets ~~comprising~~ consisting essentially of free hydrocarbons emulsified by a combination of non-ionic emulsifier with anionic emulsifiers having an HLB effective to emulsify said free hydrocarbons, said emulsion ~~comprising~~ consisting essentially of media adapted to initiate acid reactive polymerization upon exposure to polymerizable silicate solution,

wherein

said anionic emulsifiers are selected from the group consisting of alkane sulfates, alkane sulfonates, and phosphate esters; and,

said non-ionic emulsifiers are selected from the group consisting of polyoxyethylene alcohols.

106. (previously presented) The composition of claim 105 wherein

said alkane sulfates, alkane sulfonates, and phosphate esters have from about 8 to about 18 carbon atoms; and

said polyoxyethylene alcohols are selected from the group consisting of polyoxyethylene alcohols having a carbon chain of about 8 to about 30 carbon atoms and having from about 3 to about 50 moles ethylene oxide.

107. (previously presented) The composition of claim 106 wherein said polyoxyethylene alcohols are selected from the group consisting of polyoxyethylene alcohols having from about 13 to about 15 carbon atoms.

108. (previously presented) The composition of claim 107 wherein said polyoxyethylene alcohols are selected from the group consisting of linear polyoxyethylene alcohols, polyoxyethylene alcohols having about 10 moles ethylene oxide, and combinations thereof.

109. (previously presented) The composition of claim 105 wherein said droplets have a diameter of from about 3 microns to about 20 microns.

110. (previously presented) The composition of claim 109 wherein said droplets have a diameter of from about 3 microns to about 10 microns.

111. (previously presented) The composition of claim 108 wherein said droplets have a diameter of from about 3 microns to about 20 microns.

112. (previously presented) The composition of claim 111 wherein said droplets have a diameter of from about 3 microns to about 10 microns.

113. (previously presented) A composition for emulsifying free hydrocarbons in drill cuttings obtained using a drilling fluid comprising isomerized olefins, said composition consisting essentially of:

a combination of non-ionic emulsifiers and anionic emulsifiers, said combination having an HLB of about 12.5, said anionic emulsifiers being selected from the group consisting of alkane sulfates, alkane sulfonates, and phosphate esters and said non-ionic emulsifiers being selected from the group consisting of polyoxyethylene alcohols; and,

media adapted to initiate polymerization upon exposure to polymerizable silicate solution.

114. (previously presented) The composition of claim 113 wherein said media consists essentially of an aqueous solution of phosphoric acid.

115. (previously presented) The composition of claim 114 wherein said aqueous solution of phosphoric acid is about 75 wt% phosphoric acid.

116. (previously presented) The composition of claim 114 wherein said combination of non-ionic emulsifiers and anionic emulsifiers is at a weight ratio to said aqueous solution of phosphoric acid of about of 3:23.

117. (previously presented) The composition of claim 115 wherein said combination of non-ionic emulsifiers and anionic emulsifiers is at a weight ratio to said aqueous solution of phosphoric acid of about of 3:23.

118. (previously presented) The composition of claim 113 wherein said non-ionic emulsifiers have from about 13 to about 15 carbon atoms of linear alcohol ethoxylate with about 10 moles of ethylene oxide.

119. (previously presented) The composition of claim 113 wherein said anionic emulsifiers are selected from the group consisting of secondary alkanesulfonates of sodium and sodium octyl sulfate.

120. (previously presented) The composition of claim 114 wherein said polyoxyethylene alcohols have from about 13 to about 15 carbon atoms and about 10 moles of ethylene oxide.

121. (previously presented) The composition of claim 114 wherein said anionic emulsifiers are selected from the group consisting of secondary alkanesulfonates of sodium and sodium octyl sulfate.

122. (previously presented) The composition of claim 115 wherein said polyoxyethylene alcohols have about 10 moles of ethylene oxide and from about 13 to about 15 carbon atoms.

123. (previously presented) The composition of claim 115 wherein said anionic emulsifiers are selected from the group consisting of secondary alkanesulfonates of sodium and sodium octyl sulfate.

124. (previously presented) The composition of claim 116 wherein said non-ionic emulsifiers have about 13 to about 15 carbon atoms of linear alcohol ethoxylate with about 10 moles of ethylene oxide.

125. (previously presented) The composition of claim 116 wherein said anionic emulsifiers are selected from the group consisting of secondary alkanesulfonates of sodium and sodium octyl sulfate.

126. (previously presented) The composition of claim 117 wherein said non-ionic emulsifiers are selected from the group consisting of linear alcohol ethoxylates having about 13 to about 15 carbon atoms with about 10 moles of ethylene oxide.

127. (previously presented) The composition of claim 117 wherein said anionic emulsifiers are selected from the group consisting of secondary alkanesulfonates of sodium and sodium octyl sulfates.

128. (previously presented) The composition of claim 113 wherein said non-ionic emulsifiers are at a weight ratio of about 60:40 linear alcohol ethoxylate with 10 moles of ethylene oxide to said anionic emulsifiers selected from the group consisting of secondary alkanesulfonates of sodium and sodium octyl sulfate.

129. (previously presented) The composition of claim 114 wherein said non-ionic emulsifiers are at a weight ratio of about 60:40 linear alcohol ethoxylate with 10 moles of ethylene oxide to said anionic emulsifiers selected from the group consisting of secondary alkanesulfonates of sodium and sodium octyl sulfate.

130. (previously presented) The composition of claim 115 wherein said non-ionic emulsifiers are at a weight ratio of about 60:40 linear alcohol ethoxylate with 10 moles of ethylene oxide to said anionic emulsifiers selected from the group consisting of secondary alkanesulfonates of sodium and sodium octyl sulfate.

131. (previously presented) The composition of claim 117 wherein said non-ionic emulsifiers are at a weight ratio of about 60:40 linear alcohol ethoxylate with 10 moles of ethylene oxide to said anionic emulsifiers selected from the group consisting of secondary alkanesulfonates of sodium and sodium octyl sulfate.

132. (previously presented) The composition of claim 113 wherein said non-ionic emulsifier is isodecyl alcohol ethoxylate with about 6 moles of ethylene oxide.

133. (previously presented) The composition of claim 114 wherein said non-ionic emulsifier is isodecyl alcohol ethoxylate with about 6 moles of ethylene oxide.

134. (previously presented) The composition of claim 115 wherein said non-ionic emulsifier is isodecyl alcohol ethoxylate with about 6 moles of ethylene oxide.

135. (previously presented) The composition of claim 116 wherein said non-ionic emulsifier is isodecyl alcohol ethoxylate with about 6 moles of ethylene oxide.

136. (previously presented) The composition of claim 117 wherein said non-ionic emulsifier is isodecyl alcohol ethoxylate with about 6 moles of ethylene oxide.

137. (previously presented) The composition of claim 113 wherein said non-ionic emulsifiers are at a weight ratio of about 85:15 isodecyl alcohol ethoxylate with 6 moles of ethylene oxide to said anionic emulsifiers selected from the group consisting of secondary alkanesulfonates of sodium and sodium octyl sulfate.

138. (previously presented) The composition of claim 114 wherein said non-ionic emulsifiers are at a weight ratio of about 85:15 isodecyl alcohol ethoxylate with 6 moles of ethylene oxide to said anionic emulsifiers selected from the group consisting of secondary alkanesulfonates of sodium and sodium octyl sulfate.

139. (previously presented) The composition of claim 115 wherein said non-ionic emulsifiers are at a weight ratio of about 85:15 isodecyl alcohol ethoxylate with 6 moles of ethylene oxide to said anionic emulsifiers selected from the group consisting of secondary alkanesulfonates of sodium and sodium octyl sulfate.

140. (previously presented) The composition of claim 117 wherein said non-ionic emulsifiers are at a weight ratio of about 85:15 isodecyl alcohol ethoxylate with 6 moles of ethylene oxide to said anionic emulsifiers selected from the group consisting of secondary alkanesulfonates of sodium and sodium octyl sulfate.

141. (previously presented) A composition for emulsifying free hydrocarbons in drill cuttings obtained using a drilling fluid comprising esters, said composition consisting essentially of:

a combination of non-ionic emulsifiers and anionic emulsifiers, said combination having an HLB of about 15.4, said anionic emulsifiers being selected from the group consisting of alkane sulfates, alkane sulfonates, and phosphate esters and said non-ionic emulsifiers being selected from the group consisting of polyoxyethylene alcohols; and,

media adapted to initiate polymerization of a polymerizable silicate solution.

142. (previously presented) The composition of claim 141 wherein said media consists essentially of an aqueous solution of phosphoric acid.

143. (previously presented) The composition of claim 142 wherein said aqueous solution of phosphoric acid has about 75 wt% phosphoric acid.

144. (previously presented) The composition of claim 141 wherein said non-ionic emulsifiers are selected from the group consisting of oleyl alcohol ethoxylates with about 20 moles of ethylene oxide.

145. (previously presented) The composition of claim 141 wherein said anionic emulsifier is sodium octyl sulfate.

146. (previously presented) The composition of claim 142 wherein said non-ionic emulsifier is oleyl alcohol ethoxylate with about 20 moles of ethylene oxide.

147. (previously presented) The composition of claim 142 wherein said anionic emulsifier is sodium octyl sulfate.

148. (previously presented) The composition of claim 143 wherein said non-ionic emulsifier is oleyl alcohol ethoxylate with about 20 moles of ethylene oxide.

149. (previously presented) The composition of claim 143 wherein said anionic emulsifier is sodium octyl sulfate.

150. (previously presented) The composition of claim 141 wherein said non-ionic emulsifiers are at a weight ratio of about 90:10 to said anionic emulsifiers, said non-ionic emulsifier being oleyl alcohol ethoxylate with about 20 moles of ethylene oxide and said anionic emulsifier being sodium octyl sulfate.

151. (previously presented) The composition of claim 142 wherein said non-ionic emulsifiers are at a weight ratio of about 90:10 to said anionic emulsifiers, said non-ionic emulsifier being oleyl alcohol ethoxylate with about 20 moles of ethylene oxide and said anionic emulsifier being sodium octyl sulfate.

152. (previously presented) The composition of claim 143 wherein said non-ionic emulsifiers are at a weight ratio of about 90:10 to said anionic emulsifiers, said non-ionic emulsifier being oleyl alcohol ethoxylate with about 20 moles of ethylene oxide and said anionic emulsifier being sodium octyl sulfate.

153. (previously presented) A composition for emulsifying free hydrocarbons in drill cuttings obtained using a drilling fluid comprising paraffin-containing mud, said composition consisting essentially of:

a combination of non-ionic emulsifiers and anionic emulsifiers, said combination having an HLB of about 12.5, said anionic emulsifiers being selected from the group consisting of alkane sulfates, alkane sulfonates, and phosphate esters and said non-ionic emulsifiers being selected from the group consisting of polyoxyethylene alcohols; and,

media adapted to initiate polymerization upon exposure to polymerizable silicate solution.

154. (Currently amended) The composition of claim 153 wherein said media ~~comprises~~ consist essentially of an aqueous solution of phosphoric acid.

155. (Previously presented) The composition of claim 154 wherein said aqueous solution of phosphoric acid has about 75 wt% phosphoric acid.

156. (previously presented) The composition of claim 153 wherein said non-ionic emulsifier is isodecyl alcohol ethoxylate with about 6 moles of ethylene oxide.

157. (previously presented) The composition of claim 153 wherein said anionic emulsifier is selected from the group consisting of secondary alkanesulfonates of sodium and sodium octyl sulfate.

158. (previously presented) The composition of claim 154 wherein said non-ionic emulsifier is isodecyl alcohol ethoxylate with about 6 moles of ethylene oxide.

159. (previously presented) The composition of claim 154 wherein said anionic emulsifier is selected from the group consisting of secondary alkanesulfonates of sodium and sodium octyl sulfate.

160. (previously presented) The composition of claim 155 wherein said non-ionic emulsifier is isodecyl alcohol ethoxylate with about 6 moles of ethylene oxide.

161. (previously presented) The composition of claim 155 wherein said anionic emulsifier is selected from the group consisting of secondary alkanesulfonates of sodium and sodium octyl sulfate.

162. (previously presented) A composition for emulsifying free hydrocarbons in drill cuttings obtained using a drilling fluid comprising synthetic isoparaffin-containing mud, said composition consisting essentially of:

one or more non-ionic emulsifiers having an HLB of about 10.9, said non-ionic emulsifiers being selected from the group consisting of polyoxyethylene alcohols; and,

media adapted to initiate polymerization upon exposure to polymerizable silicate solution.

163. (Currently amended) The composition of claim 162 wherein said media ~~comprises~~ consist essentially of an aqueous solution of phosphoric acid.

164. (Previously presented) The composition of claim 163 wherein said aqueous solution of phosphoric acid has about 75 wt% phosphoric acid.

165. (Previously presented) The composition of claim 162 wherein said non-ionic emulsifier is isotridecyl ethoxylate with about 3 moles of ethylene oxide.

166. (Previously presented) The composition of claim 162 wherein said non-ionic emulsifier is isotridecyl ethoxylate with about 10 moles of ethylene oxide.

167. (previously presented) The composition of claim 163 wherein said non-ionic emulsifier is isotridecyl ethoxylate with about 3 moles of ethylene oxide.

168. (previously presented) The composition of claim 163 wherein said non-ionic emulsifier is isotridecyl ethoxylate with about 10 moles of ethylene oxide.

169. (previously presented) The composition of claim 164 wherein said non-ionic emulsifier is isotridecyl ethoxylate with about 3 moles of ethylene oxide.

170. (previously presented) The composition of claim 164 wherein said non-ionic emulsifier is isotridecyl ethoxylate with about 10 moles of ethylene oxide.

171. (previously presented) The composition of claim 162 wherein said non-ionic emulsifiers are at a weight ratio of about 50:50 isotridecyl ethoxylate with about 3 moles of ethylene oxide to isotridecyl ethoxylate with about 10 moles of ethylene oxide.

172. (previously presented) The composition of claim 163 wherein said non-ionic emulsifiers are at a weight ratio of about 50:50 isotridecyl ethoxylate with about 3 moles of ethylene oxide to isotridecyl ethoxylate with about 10 moles of ethylene oxide.

173. (previously presented) The composition of claim 164 wherein said non-ionic emulsifiers are at a weight ratio of about 50:50 isotridecyl ethoxylate with about 3 moles of ethylene oxide to isotridecyl ethoxylate with about 10 moles of ethylene oxide.

174. (previously presented) A composition consisting of:

a combination of non-ionic emulsifiers with anionic emulsifiers having an HLB effective to emulsify free hydrocarbons in media adapted to initiate acid reactive polymerization upon exposure to polymerizable silicate solution, wherein

said anionic emulsifiers are selected from the group consisting of alkane sulfates, alkane sulfonates, and phosphate esters; and,said non-ionic emulsifiers are selected from the group consisting of polyoxyethylene alcohols.

175. (previously presented) The composition of claim 174 wherein

said alkane sulfates, alkane sulfonates, and phosphate esters have from about 8 to about 18 carbon atoms; and

said polyoxyethylene alcohols have from about 8 to about 30 carbon atoms and from about 3 to about 50 moles ethylene oxide.

176. (previously presented) The composition of claim 174 wherein said polyoxyethylene alcohols have from about 13 to about 15 carbon atoms.

177. (previously presented) The composition of claim 174 wherein said polyoxyethylene alcohols have from about 3 to about 20 moles ethylene oxide.

178. (previously presented) The composition of claim 175 wherein said polyoxyethylene alcohols have from about 3 to about 20 moles ethylene oxide.

179. (previously presented) The composition of claim 176 wherein said polyoxyethylene alcohols have from about 3 to about 20 moles ethylene oxide.

180. (previously presented) The composition of claim 174 wherein said polyoxyethylene alcohols are selected from the group consisting of linear polyoxyethylene alcohols, polyoxyethylene alcohols having about 10 moles ethylene oxide, and a combination thereof.

181. (previously presented) The composition of claim 175 wherein said polyoxyethylene alcohols are selected from the group consisting of linear polyoxyethylene alcohols, polyoxyethylene alcohols having about 10 moles ethylene oxide, and a combination thereof.

182. (previously presented) The composition of claim 176 wherein said polyoxyethylene alcohols are selected from the group consisting of linear polyoxyethylene alcohols, polyoxyethylene alcohols having about 10 moles ethylene oxide, and a combination thereof.

183. (previously presented) The composition of claim 174 wherein said combination is a blend of non-ionic emulsifier and anionic emulsifier at a weight ratio of about 50/50 to about 85/15.

184. (previously presented) The composition of claim 175 wherein said combination is a blend of non-ionic emulsifier and anionic emulsifier at a weight ratio of about 50/50 to about 85/15.

185. (previously presented) The composition of claim 177 wherein said combination is a blend of non-ionic emulsifier and anionic emulsifier at a weight ratio of about 50/50 to about 85/15.

186. (Canceled).

187. (previously presented) The composition of claim 178 wherein said combination is a blend of non-ionic emulsifier and anionic emulsifier at a weight ratio of about 50/50 to about 85/15.

188. (previously presented) The composition of claim 182 wherein said combination is a blend of non-ionic emulsifier and anionic emulsifier at a weight ratio of about 50/50 to about 85/15.

189. (previously presented) The composition of claim 174 wherein said alkane sulfates, alkane sulfonates, and phosphate esters have from about 8 to about 12 carbon atoms.

190. (previously presented) The composition of claim 176 wherein said alkane sulfates, alkane sulfonates, and phosphate esters have from about 8 to about 12 carbon atoms.

191. (previously presented) The composition of claim 177 wherein said alkane sulfates, alkane sulfonates, and phosphate esters have from about 8 to about 12 carbon atoms.

192. (previously presented) The composition of claim 179 wherein said alkane sulfates, alkane sulfonates, and phosphate esters have from about 8 to about 12 carbon atoms.

193. (previously presented) The composition of claim 183 with about 10 wt.% or less of said combination of non-ionic emulsifiers with anionic emulsifiers.

194. (canceled)

Reason for allowance

The following is an examiner's statement of reasons for allowance: The closest prior art is directed to Noonan et al, 5,076,938. Noonan et al lacks a teaching of an emulsifier combination as claimed employing said anionic emulsifiers are selected from the group consisting of alkane sulfates, alkane sulfonates, and phosphate esters; and, said non-ionic emulsifiers are selected from the group consisting of polyoxyethylene alcohols to form an emulsion consisting essentially of media adapted to initiate acid reactive polymerization upon exposure to polymerizable silicate solution. The prior art does not disclose or fairly suggest said combination that would be properly combinable with the Noonan et al reference.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel S. Metzmaier whose telephone number is (703) 308-0451. The examiner can normally be reached on 9:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy P. Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Art Unit 1712

DSM